

Fact Sheet #1

Savings through Efficiency

Purpose of proposal: Efficiently using present energy resources and placing renewable energy technologies in a more cost- competitive position will contribute to reducing operating costs and reducing the state's need for importing fossil fuel.

The purpose of this proposal is to provide guidelines for state facilities building design standards and operating practices, incentives to home owners and building owners to install renewable technologies, and financing mechanisms to level the playing/paying field for renewable-fueled technologies.

Problem: State Buildings and Facilities:

Operating costs for state buildings and facilities, as well as costs for transportation fuels, are rising each year as the cost for fuel increases.

Renewable Energy Tax Credits:

Renewable technologies have a higher installation cost, therefore, tax credits are essential to level the playing/paying field for renewable-fueled technologies to compete against fossil-fueled technologies.

Practical effect of proposal: State Buildings and Facilities:

With retrofits using energy efficient equipment, state facilities could reduce energy consumption by 14% and save about \$10 million/yr. New buildings designed to Leadership in Energy and Environmental Design (LEED) Silver Standard cost 5% to 10% more, but operating costs are reduced by 30%. The proposal will retain and strengthen state agencies' programs for efficient vehicles, alternative transportation fuels, recycling, and environmentally preferable purchasing.

The State of Hawaii, an active participant in the U.S. Environmental Protection Agency's Energy Star Challenge, is committed to improving energy efficiency by 10% or more to conserve energy, save money, and protect the environment. The Kapolei State Building will receive an Energy Star plaque designating that it meets the high efficiency performance standards of an Energy Star building.

Renewable Energy Tax Credits:

Renewable technologies have a higher installation cost, therefore, tax credits are essential to level the playing/paying field for renewable-fueled technologies to compete against fossil-fueled technologies. Mid- and long –term impact: increased revenues, jobs, and environmental benefits.

Effect for home owner who installs a solar water heater: Annual dollar savings of about \$855.

Effect on State revenues: For each \$1 in tax credits paid, \$1.82 in tax revenues is generated from solar water heating, which presently constitutes about 100 percent of the tax credits claimed.

Changes to the renewable energy tax credits are estimated to increase tax credits payout by \$1.75 million. The payout would include \$1.5 million for the increased number of commercial photovoltaic installations and \$250,000 per year for increased residential photovoltaic installations. The tax credit impact for multi-unit residential solar water heaters is not expected to be significant.

Public Benefits Charge: The management and operation of the Demand Side Management (DSM) programs would be transferred, along with funds to be collected in the same amount, to a state agency or private entity selected by the Public Utilities Commission. This would increase funding directly applied to DSM by as much as \$9.7 million.

Other states' laws: State Buildings and Facilities:

Approximately 48 state, city, and county government entities throughout the U.S. have adopted policies requiring or encouraging the use of LEED standards.

Renewable Energy Tax Credits:

Approximately 22 states provide tax incentives in support of renewable technologies.

Public Benefits Charge: Eighteen states have public benefits programs that have active energy efficiency and renewable energy programs. NY, WI, OR, VT, ME, and NJ have changed the administrative structure of their energy efficiency and renewable energy programs from utility administration to state administration or to an independent administrator.

**Laws to
be
changed:**

State Buildings and Facilities:

Repeal Chapter 196-12-19, Hawaii Revised Statutes, relating to energy efficiency in state facilities, and replace with new proposal.

Renewable Energy Tax Credits:

Amend Chapter 235 -12.5, Hawaii Revised Statutes, relating to renewable energy tax credits to increase tax credits for photovoltaics, remove the tax credit sunset date, and other provision to support renewable energy resources and technologies.

Chapters 103D, 226, 237, and 286, Hawaii Revised Statutes.

Public Benefits Charge: Adds five new sections to Chapter 269, Hawaii Revised Statutes, directing the PUC to establish a public benefits fund and setting the provisions for its creation and operation.

Fact Sheet #2

Independence through Renewable Energy

Purpose of proposal:

Hawaii has ample renewable energy resources to potentially meet all of its energy needs in the future, especially in the electricity sector. The bill fosters further development of Hawaii's renewable resources to enhance the state's energy security, economic security, and protect the environment by reducing oil use. Increased use of renewable energy is also a foundation for the transition to a hydrogen economy in the future as discussed in Fact Sheet #4.

Problem:

Since the early 1970s, Hawaii has broadly diversified the types of renewable energy used, but has not been able to fully offset losses of renewable energy generation formerly sold to utilities due to closure of all but two sugar mills. Relatively low oil prices from about 1986 to 2002, added to constraints of renewable energy's contribution to only around 7% of electricity generation. In an effort to increase renewable energy use, in 2004, Governor Lingle signed Act 95, establishing a renewable portfolio standard (RPS) requiring that the electric utilities provide 20% of electricity sales from renewable energy by 2020. Coincident major increases in the cost of oil, new security threats to key oil producers, and a growing recognition of the consequences of greenhouse gas emissions make it imperative to greatly increase renewable energy use.

Practical effect of proposal:

The bill amends the RPS as follows:

- Requires RPS targets be achieved only by electricity produced from renewable energy resources, and repeals the definition of energy efficiency gains as renewable resources for the purpose of the RPS, but not for other incentives.
- Eliminates "off-ramps" and directs the PUC to develop penalties for utilities' non-attainment of RPS target.
- Provides for an opportunity for the utilities to earn a fair rate of return.
- Calls for the PUC to establish a methodology to establish a price for renewable energy, to include a competitive bidding process, and an approval process for long-term fixed price renewable energy contracts intended to de-link the use of oil-based avoided cost in determining appropriate payments to renewable energy producers and developers.

The bill seeks an appropriation of \$200,000 for Department of Land and Natural Resources to inventory State lands available for renewable energy, and establish renewable energy resource development sub-zones, streamline permitting for sub-zones; e.g., eliminate contested case provisions. By identifying State assets that can be used for renewable energy development private investment will be encouraged.

To streamline permitting of renewable energy projects, State agencies with permitting jurisdiction are to give priority processing of renewable energy projects over conventional fuel energy projects.

Directs the State of Hawaii Department of Agriculture, and appropriates \$150,000 for the purpose, to work with local producers to stimulate the production of energy crops and use of agricultural waste streams for energy. This positions local agricultural industries to take advantage of the Energy Policy Act and Farm Bill incentives.

Other states' laws:

Twenty states plus the District of Columbia now have renewable portfolio standards conceptually similar to Hawaii's. None include energy efficiency measures, but five define solar water heating as a renewable resource and three include combined heat and power. (Hawaii is the most oil-dependent state in the U.S, but has a rich abundance of renewable energy resources.)

Laws to be changed:

Add a new section to chapter 226, and a new section to 269-16; amend sections 269-16, 269-27.2, 269-91, 269-92, and 269-95; repeal sections 269-94, Hawaii Revised Statutes; and appropriate \$200,000 in FY2006-2007 for a statewide inventory of renewable energy resources; and, appropriate \$150,000 in FY 2006-2007 to provide assistance to the agricultural community interested in developing energy projects, especially those utilizing energy crops and agricultural waste streams for renewable energy production.

Fact Sheet #3

Fuels through Farming

**Purpose
of
proposal:**

To diversify Hawaii's transportation fuel sources and to meet new demand with new fuels.

It is possible for transportation fuels to be made from renewable resources, such as sugarcane or even waste products. These materials are neither as scarce nor as expensive as crude oil.

Even more importantly, these materials are available here. Hawaii's agricultural and waste materials could be used to increase our supply of transportation fuels.

This proposal sets the course for a gradual, steady transition to renewable fuels and more efficient vehicles.

Problem:

Worldwide demand for crude oil is increasing faster than new supplies are being found. Global competition for oil causes price spikes. This causes difficulties for Hawaii's businesses and families.

Our need for transportation fuels has been increasing. It will continue to increase. Relying only on petroleum fuels is expensive -- and risky.

With Federal incentives, renewable fuels have been cheaper than gasoline for many years. Forty percent of American gasoline contains ethanol. Hawaii is one of the last states in the nation without ethanol fuel available. We are a leader in biodiesel fuel, but even those supplies are limited. It is time to develop these industries.

**Practical
effect of
proposal:**

Hawaii motorists will benefit from cleaner fuels and lower costs. Biodiesel is already here. Ethanol is coming soon. But that is only the beginning. We can do much more.

By 2020, twenty percent of our fuel could come from renewable sources. That is equal to the projected increase in transportation fuel demand. This would be a significant step in the right direction.

In addition to lower costs, diversifying our fuel supply will provide energy security. It will open the door for Hawaii farmers to begin to produce fuel from Hawaii crops and waste materials.

**Other
states'
laws:**

Incentives for energy efficient and alternative fuel vehicles are provided by 36 states: AL, AR, AZ, CA, CO, CT, FL, GA, IL, IN, IA, KS, LA, ME, MD, MI, MO, MT, NE, NV, NJ, NM, NY, NC, OH, OK, OR, PA, RI, TN, TX, UT, VA, WA, WV, and WI. Renewable fuel incentives are provided by 21 states: AK, CT, ID, IL, IN, IA, KS, ME, MD, MN, MS, MO, MT, NE, ND, OK, PA, SD, TX, WI, and WY. State fleet fuel and vehicle requirements are in place in 17 states: AZ, CO, CT, IL, IN, KS, ME, MO, MT, NC, NJ, NM, NV, NY, OR, WA, WV. Minnesota has established an objective of displacing 20% of their gasoline demand with ethanol fuel by 2013. The Federal Energy Bill enacted in 2005 sets a Renewable Fuels Standard for the nation of 7.5 billion gallons of renewable fuel (ethanol and biodiesel) by 2012.

**Laws to
be
changed:**

Chapters 103D, 226, 237, and 286, Hawaii Revised Statutes.

Fact Sheet #4

Security through Technology

<u>Purpose of proposal:</u>	Establishes a major, far-sighted initiative to lead Hawaii to long-term energy self-sufficiency by developing the state's abundant renewable energy resources utilizing hydrogen as an energy carrier.
<u>Problem:</u>	<p>The use of Hawaii's renewable energy resources has been limited by separate island utility systems, intermittency of wind and solar, and site-specific availability. Through conversion to hydrogen-rich liquid or gaseous fuels as energy carriers, renewable resources can be stored and distributed for use in a variety of clean, efficient power and transportation applications.</p> <p>With abundant renewable resources, high fossil fuel prices, limited geographic area, and recognized expertise in hydrogen research and development, the state is an ideal location to lead the transition to a renewable hydrogen economy.</p>
<u>Practical effect of proposal:</u>	<p>A world-class renewable hydrogen program, sustainable over the longer-term, will be established and funded to attract public and private sector investment in research and development, testing, and commercialization projects. The program will build on the on-going work of DBEDT, the University of Hawaii, and local and national public and private sector partners.</p> <p>An appropriation of \$750,000 is proposed for program support. Additionally, \$10,000,000 is proposed to establish a hydrogen investment capital revolving fund to seed investments in hydrogen projects.</p>
<u>Other state's laws:</u> <u>(as of 6/30/04)</u>	<ul style="list-style-type: none">○ California Hydrogen Highways Initiative – Provides grants and low interest loans. California Public Utilities Commission funded 4 fuel cell projects.○ Connecticut Clean Energy Fund – Funding at \$9 million/yr; 23 projects funded through latest Request for Proposal.○ Massachusetts Renewable Energy Trust – Conducted 8 feasibility studies and funded one project.○ Michigan Next Energy Program – NextEnergy Center under construction; \$52 million budget over 3 years.○ New York State Energy Research and Development Authority-- \$10 million annual budget for industry development.○ Ohio Fuel Cell Initiative -- \$103 million in funding.
<u>Laws to be changed:</u>	The proposal adds two new sections to be appropriately designated in Hawaii Revised Statutes

Fact Sheet #5

Empowering Hawaii's Consumers

Purpose of proposal: Improve consumers' knowledge by establishing a system of petroleum and energy industry and market transparency, and enhance consumer benefits via competitive pricing with statewide data and information reporting and analyses of Hawaii's energy industry, markets, and systems for enforcement and energy-related agencies, and policymakers.

Problem: High oil prices have had led to higher gasoline and other petroleum product prices, prompting lawmakers to respond with well-intended policies, like gasoline price caps, and other laws like "anti-encroachment" (aka "divorcement") – restrictions on operations and construction of retail service stations by integrated oil companies. However, it has been found time after time, that such laws distort the market, harm consumers, decrease competition, and cause a host of other unintended consequences – the opposite effects of the original intent. Here in Hawaii, the gas cap law has become the *de facto* State energy policy, focusing attention, and government resources away from the state's actual energy problem: Hawaii's over-dependency on oil – the highest in the U.S. – a diminishing, increasingly costly energy resource. Capping prices of commodities like gasoline or other products made from crude oil, traded competitively on the World market is not a viable energy policy for Hawaii.

Hawaii, like much of the Asia-Pacific, and the world, is competing with strong demand for increasing oil imports from the oil-producing countries. Countries that used to be net exporters to Hawaii, like China, have become oil importers. In fact, China's crude oil demand in 2004 skyrocketed by about 1 million barrels per day. This competition has affected Hawaii's oil supply sources; e.g., from 1992 to 2003, Hawaii's average annual oil imports from the Middle East were less than 1%, but by 2004, Hawaii imported 13.5% of its crude oil from the Mid East. This intense competition for the same diminishing energy resource – crude oil – has led to a significantly higher new "plateau price", from which experts have concluded historical low price trends will not return.

On December 12, 2005, the U.S. Energy Information Administration (USEIA) "Early Release" *Annual Energy Outlook 2006 (AEO2006)* updated its oil price forecast, due to this intensely competitive global oil market, together with major disruptions like Hurricanes Ivan (2004) and Katrina (2005), and inadequate investment in new oil supplies, sharply increasing world oil prices. Last year's, EIA 20-year forecast projected that oil prices at \$32.94 per barrel.¹ *AEO2006* projects light, low- sulfur crude oil – the only kind used in Hawaii – will cost \$54.08 per barrel in 2025 (about \$21 per barrel higher than in the *AEO2005* forecast).

Practical effect of proposal:

1. Repeal gasoline price control law to eliminate the "price spikes" and volatility gas caps have imposed on consumers, and re-stimulate competition in the wholesale gasoline market, which price data evidence shows had been increasing since early 2000, following Aloha Petroleum's gasoline import terminal startup. Develop and publish an import parity pricing benchmark.
2. Repeal "anti-encroachment" (aka "divorcement") law to increase competition in retail gasoline market, and reinstate fairness to retailers who may want to sell their businesses.
3. Provide Hawaii's consumers knowledge on gasoline pricing and oil industry.
4. Provide price, product, and profit data and information on oil companies for enforcement agencies' scrutiny and use enforcement agencies; i.e., Attorney

¹ USEIA oil prices are in "2004 dollars", or today's dollars, which means these prices do not include changes that are likely to be caused by inflation and other monetary factors. Thus, actual future prices are likely to be higher.

General, Department of Taxation, and Consumer Advocate.

5. Expand and improve the State's detailed understanding of energy industry, markets and systems, by all energy-related agencies – DBEDT, Public Utilities Commission, and Consumer Advocate. Provide accurate data, analyses, and information for informed policy and regulatory decisions, energy emergency planning, and assessments of renewable energy, energy efficiency, and fossil fuels in all sectors; i.e., planning and preserving energy security.

NOTE: Information and data described in 3, 4, and 5 has never been available to Hawaii consumers and the State on a systematic basis.

**Other
states'
laws:**

No other state in the U.S. has gasoline price controls.

A 2000 U.S. Federal Trade Commission staff analysis found that the anti-encroachment and divorcement laws in Hawaii, Connecticut, Delaware, Maryland, Nevada, Virginia, and the District of Columbia sacrifice market efficiencies and harm consumers by raising regular unleaded gasoline prices an average of about 2.7¢/gallon at self-serve retail, costing consumers an estimated \$100,000,000 annually.

At least fifteen (15) other states and territories have established programs for energy data and information reporting by industry (AK, CA, CO, DC, FL, GM, IA, LA, NE, NJ, ND, NM, ME, MN, and MT). Most notable for its comprehensiveness and technical depth is California's program. These programs add significant value to consumer knowledge, competitive pricing, and provide data, analyses, and information for informed policy and regulatory decisions, energy emergency planning, and assessments of renewable energy, energy efficiency, and fossil fuels in all sectors; i.e., planning and preserving energy security, particularly critical due to the state's extreme over-dependence on oil – the Nation's highest.

**Laws to
be
changed:**

Repeal gasoline price caps – Act 242, Session Laws of Hawaii 2004 (SLH 2004) (repeal sections 3, 5, and 6 of Act 242 SLH 2004); repeal restriction on refiners or wholesalers in operating service stations (amend sections 486H-10.4, 486H-10.5, and 486H-11, HRS); amend and add appropriate new sections to Chapter 486J, Hawaii Revised Statutes to: eliminate the State petroleum commissioner's role by restoring those duties and responsibilities to the director of business, economic development, and tourism; repeal the petroleum commissioner's statutory requirement to conduct random and periodic audits and inspections of the petroleum industry; amend existing petroleum industry data reporting requirements so as to establish an effective statewide system of "watchdog" monitoring, analysis, and reporting of petroleum industry data and information to increase energy industry and market transparency, oversight, and enforcement; increase statewide energy systems data sharing to strengthen the State's data analytic capacity for statewide energy systems (all sectors) in order to support informed policy decisions and programmatic assessments of renewables, energy efficiency, leading to hydrogen in long term; and, enhance internal data/information security provisions.